

Using HP Systems Insight Manager with HP StorageWorks Management Software

Second Edition (March 2004)

358638-002

This document summarizes configuration changes that need to be made within various HP StorageWorks management software packages to enable HP Systems Insight Manager to monitor that software and the devices it supports.

For the latest version of these Application Notes and other HP Systems Insight Manager documentation, access the HP storage web site at: <http://www.hp.com/country/us/eng/prodserv/storage.html>.

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Printed in the U.S.A.

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Part Number: 358638-002

About this document

This section describes the content reflected in this document, including:

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Application notes information

These Application Notes cover the following major topics:

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- [Configuring Command View products](#), page 8
- [Configuring HP StorageWorks MSL-Series tape library management software](#), page 11
- [Configuring HSG-based array management software](#), page 12
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Intended audience

This document is intended for users of HP Systems Insight Manager and HP StorageWorks Command View for XP, EVA, SDM, ESL, for users of HP StorageWorks ESL-Series and MSL-Series libraries, and for users of HSG-based disk arrays.

Other documentation

The following additional documentation may be helpful:

- *HP Systems Insight Manager User Guide*
- *HP StorageWorks Command View XP User Guide*
- *HP StorageWorks Command View EVA Getting Started Guide*
- *HP StorageWorks Command View SDM Online Help*
- *HP StorageWorks Interface Manager and Command View ESL User Guide*
- *HP StorageWorks MSL-Series Tape Libraries User Guide*
- *HP StorageWorks Command Console User Guide*
- *HP OpenView Storage Management Appliance Software User Guide*

Additional documentation, including white papers and best practices documents, are available via the HP web site at: <http://www.hp.com>.

Overview

HP Systems Insight Manager combines the strengths of HP Insight Manager 7, HP TopTools, and HP Servicecontrol Manager to deliver a single tool for managing ProLiant, Integrity, and HP 9000 systems running Microsoft® Windows®, Linux, and HP-UX. The core HP Systems Insight Manager software delivers the essential capabilities required to manage all HP server platforms.

HP StorageWorks Command View software provides the ability to manage globally distributed storage hardware from a single console. All versions of Command View are web-based and share tools and a common user interface.

This document explains how to configure the various management software products to work together with HP Systems Insight Manager. This document does not address the installation and use of HP Systems Insight Manager or other management software. Refer to the documentation shipped with HP Systems Insight Manager or other management software for instructions on how to install and operate the software.

HP Systems Insight Manager can discover and interface with the following management software:

- Command View XP provides management for XP disk arrays.
- Command View EVA provides management for Enterprise Virtual Arrays.
- Command View SDM (for VA) provides management for Virtual Arrays.
- Command View ESL provides management for ESL-Series tape libraries.
- HSG Element Manager on the HP OpenView Storage Management Appliance v2.1 or HP StorageWorks Command Console provide management for HSG-based disk arrays.

HP Systems Insight Manager can also discover and interface directly with HP StorageWorks MSL-Series tape libraries (embedded management software).

Benefits of integrating HP Systems Insight Manager with Command View

HP Systems Insight Manager simplifies and consolidates the server and storage fault management interfaces and augments the functionality of the Command View and other management software products by providing additional management capabilities for storage hardware, such as:

- HP Systems Insight Manager can discover tape libraries and Command View software.
- Storage management applications can be launched from the HP Systems Insight Manager **System Page**.
- HP Systems Insight Manager can receive SNMP traps/events from a Command View server (or tape library) and can launch Command View from the context of a trap.
- HP Systems Insight Manager aggregates data from the devices it manages and stores it in a database. This allows you to:
 - Use HP Systems Insight Manager's dynamic query and task execution to group your ProLiant servers and their associated storage (whether managed by a Storage Management Appliance or not) in ways that make sense for your environment. For example, you can create, and save for later use, lists which group managed devices by floor or building, by owning organizational unit, by functional use, or by any other way that makes sense for you. You can have as many different views as you want. Tasks can be configured to execute based on day of week and time of day.

- Combine HP Systems Insight Manager's query and task capability with its email and paging notification ability to send either (or both) email and paging notifications based on the receipt of a specified event or a change in device status. This gives system administrators unrestricted mobility and removes the need for constant monitoring of multiple management consoles. The day of week and time of day task execution parameters allow automatic redirection of notifications to appropriate shift and standby personnel.
- Use Proactive Remote Service (PRS) for both your ProLiant servers and StorageWorks products to get automatic, secure reporting directly to HP's Customer Support Centers of events that require service action. PRS can reduce the time necessary to repair failing component by automatically notifying the Customer Support Center even when you don't have around the clock staff coverage.

Assumptions

This document makes the following assumptions:

- You have already installed and are using HP Systems Insight Manager with your configuration.
- You have one or a combination of the following:
 - a version of Command View installed and running in your configuration
 - an HP StorageWorks ESL-Series or MSL-Series library installed and running in your configuration
 - an HSG-based disk array installed and running in your configuration

Configuring HP Systems Insight Manager

To enable HP Systems Insight Manager to successfully interface with Command View servers, follow the procedures outlined in the these sections:

- [Setting HP Systems Insight Manager to use fully qualified DNS names](#)
- [Configuring HP Systems Insight Manager to discover Command View servers](#)

Setting HP Systems Insight Manager to use fully qualified DNS names

To ensure that you are able to launch Command View from HP Systems Insight Manager, use fully qualified DNS names.

1. Select **Options > Security > System Link Settings** from the main menu.
2. Select **Use the system's full DNS name**.

Configuring HP Systems Insight Manager to discover Command View servers

In most cases, Command View servers are discovered automatically during the port sweep process. However, the following situations may prevent an instance of Command View from being discovered:

- The Command View server was started after the discovery process was completed. In this case, refer to the HP Systems Insight Manager documentation for instructions on how to initiate a manual discovery process.
- The Command View server's configuration was changed and it was subsequently restarted. In this case, refer to the HP Systems Insight Manager documentation for instructions on how to initiate a manual discovery process.
- The Command View server's security settings are preventing discovery. See "[Enabling discovery](#)" on page 9.

Modifying the port sweep config file

If Command View SDM or XP are set up to use secure http (https), the following modifications need to be made to the port sweep file:

1. Open the following file in a text editor:

```
/etc/opt/mx/config/identification/additionalWsDisc.props
```

The contents of the file are similar to the following:

```
# -----
# Additional Web Server Discovery Properties
#
# -----
# NOTE: See "additionalWsDisc_README.txt" for a description of entries in
# this file and how to add or remove additional web server ports used for
# discovery and identification.
# -----
#
# -----
# The following are actual web server ports enabled by default.
# To remove them from the discovery process, comment out the line with a '#'
# or remove it. You will need to restart the HP Systems Insight Manager
# service for the changes to take effect. In addition you will need to run the
# Device Identification task to find any new ports that were defined.
# -----
```

```

411=Director Agent,           ,true,false, ,http
443=Command View XP,         ,true,false, ,https
1311=Server Administrator,    ,true,false, ,https
3201=Compaq TaskSmart,        ,true,false, ,http
3257=Rack and Power Manager,   ,true,false, ,https
4095=Command View ESL,        ,true,false, ,http
4096=Command View SDM,        ,true,false, ,https
8000=HP Web Jetadmin,         ,true,false, ,http
8443=HP Web Jetadmin,         ,true,false, ,https

```

2. Add the following line immediately after the line that starts with “411=Director Agent . . .”:

```
443=Command View XP, ,true,false, ,https
```

The previous example shows this line already inserted. Make sure to type all of the commas exactly as shown in the example.

3. Modify the line that starts with “4096=Command View SDM . . .” so that the transfer protocol is “https.” The previous example shows this change already made.
4. Comment out any unnecessary lines by inserting “#” at the beginning of the line.



Caution: Do not comment out a line unless you are absolutely certain that it is not needed. Commenting out a required line causes configuration errors and other problems.

Note: HP Systems Insight Manager cannot discover both http and https on the same port (4096) in the same environment (mixed http/https).

5. Save the changes and restart HP Systems Insight Manager.

Configuring Command View products

This section describes configuration information that is specific to each version of Command View.

- [Configuring Command View XP](#), page 8
- [Configuring Command View EVA](#), page 8
- [Configuring Command View SDM](#), page 9
- [Configuring Command View ESL](#), page 10

Configuring Command View XP

Discovery

HP Systems Insight Manager will discover Command View XP servers running on port 80 (http) by default. If Command View is configured for https access (port 443), see “[Modifying the port sweep config file](#)” on page 6.

Configuring SNMP trap destinations

To configure the SNMP trap destinations on the Command View XP management server, refer to the instructions located on the Command View management server at:

```
<cv_xp_install_root>\hpss\subagent\readme.txt
```

Configuring Command View EVA

Configuring HP Systems Insight Manager to receive EVA events

To view Command View EVA events within Systems Insight Manager, you must load the management information base (MIB) onto the command management station (CMS). To load the MIB onto the CMS:

1. Open a command prompt and navigate to the following directory:
 - Windows: C:\Program Files\HP\System Insight Manager\mibs
 - Linux and HP-UX: /opt/mx/mibs
2. Enter the following command:

```
mxmib -a cpqhsv110v3.cfg
```

Note: Loading the MIB can take several minutes. For more information about MIBs, see “Using Default Tools—MIBs” in the *HP Systems Insight Manager User Guide*.

Configuring SNMP trap destinations

Set the SNMP trap destinations using Command View EVA. See the HP StorageWorks Command View EVA Online Help for more information.

Configuring Command View SDM

Enabling discovery

HP Systems Insight Manager will discover Command View SDM (VA) servers running on port 4096 (http) by default. If Command View is configured for https access, you must modify the port sweep config file to enable Command View to be discovered by HP Systems Insight Manager. See “[Modifying the port sweep config file](#)” on page 6 for more information.

To enable discovery, the command management station (CMS) must be within secure IP range. To ensure the CMS is within secure IP range:

1. Open the following file in a text editor:
 - If you have a host-based configuration, open the `.../sanmgr/hostagent/config/access.dat` file.
 - If you have an OV/SAM management station, open the `...\\sanmgr\\managementserver\\config\\authorizedClients.dat` file.
2. Add the IP address of the CMS to the list of addresses in the file.
3. Save and close the file.

Configuring SNMP trap destinations

Set the SNMP trap destination for Command View SDM to point to the host name or IP address of the CMS.

Configuring the SNMP trap destination on Windows NT 4.0

1. Select **Start > Settings > Control Panel > Network**.
2. Select the **Services** tab, and then double-click **SNMP Service**.
3. From the **Microsoft SNMP Properties** dialog, click **Traps**.
4. Type a community name (for example, public) and click **Add**.
5. Click **Add** at the bottom of the dialog to display the **Service Configuration** dialog.
6. Type the host name or IP address of the CMS and click **Add**.

Configuring the SNMP trap destination on Windows 2000

1. Select **Start > Settings > Control Panel > Administrative Tools > Services** to open the Services applet.
2. Locate and double-click the SNMP service.
3. From the **SNMP Service Properties** dialog, click the **Traps** tab.
4. Type a community name (for example, public) and click **Add to list**.
5. Click **Add** at the bottom of the dialog to display the **SNMP Service Configuration** dialog.
6. Type the host name or IP address of the CMS and click **Add**.

Configuring the SNMP trap destination on HP-UX:

1. Open the `/etc/snmpd.conf` file in a text editor.
2. Insert the following information at the end of the file:

```
trap-dest: <IP address>
```

where `<IP address>` is the IP address of the CMS.
3. Save the changes and close the file.
4. Enter the following command to determine the process ID of the SNMP daemon:

```
ps -ef | grep snmpd
```
5. Enter the following command to terminate the SNMP daemon:

```
kill -9 <PID>
```

where `<PID>` is the process ID returned in [step 4](#).
6. Enter the following command to restart the SNMP daemon:

```
snmpd
```

Configuring Command View ESL

Enabling discovery

HP Systems Insight Manager will automatically discover Command View ESL servers running on port 4095 (http).

Setting the SNMP trap destination

Before setting the SNMP trap destinations for Command View ESL, make sure that the Interface Manager card is at firmware version I110 or greater.

Set the SNMP trap destinations using Command View ESL. See the *HP StorageWorks Interface Manager and Command View ESL User Guide* (or online help) for more information.

Configuring HP StorageWorks MSL-Series tape library management software

The HP StorageWorks MSL-Series tape libraries do not use Command View for management. MSL libraries contain a management card that provides a web management GUI, and they have implemented the HP storage management information base (MIB). By implementing this MIB, the MSL tape library is discovered via SNMP, and the command management station (CMS) can also receive and decode the traps. Traps sent from the MSL library contain a URL that, when clicked from within HP Systems Insight Manager, launches the web-based MSL Device Manager.

Enabling discovery

The CMS discovers the http server on the MSL library's embedded management card at port 80.

Note: The HTML <TITLE> tag for MSL is "HP StorageWorks MSL Tape Library Management Console."

Setting the SNMP trap destination

Before setting the SNMP trap destinations, make sure that the MSL library is at firmware version 4.23 or greater.

Set the SNMP trap destinations using the MSL library's embedded management GUI. For each MSL library:

1. Launch the MSL Device Manager.
2. Click **Setup**.
3. Click **Notifications**.
4. In the SNMP Trap Destinations table, add the IP address of the CMS for all trap types. Make sure to select the **Add** checkbox before clicking **Submit**.

Note: Make sure that you configure the SNMP traps as SNMPv1 traps (the default setting). SNMPv2 traps will not function correctly with HP Systems Insight Manager.

Configuring HSG-based array management software

The HSG Element Manager on the HP OpenView Storage Management Appliance v2.1 is used to manage HSG-based arrays. StorageWorks Command Console (SWCC) can also be used. Using HP Systems Insight Manager in conjunction with either of these applications improves operations and maximizes availability.

Enabling discovery

HP Systems Insight Manager will discover the Storage Management Appliance or the server on which SWCC is installed. Refer to the *HP Systems Insight Manager User Guide* for setting up discovery for these servers.

Configuring SNMP trap destinations

To configure SNMP trap destinations on the Storage Management Appliance, access the **SNMP Properties Traps** page of the Storage Management Appliance software v2.1. For complete instructions, see “Configuring SNMP Trap Settings” in the Storage Management Appliance online help.

To configure the SNMP trap destinations on SWCC, refer to the technical white paper, “Fault Management of StorageWorks Devices in ProLiant Server Environments.” This white paper can be found at <http://h18006.www1.hp.com/storage/softwhitepapers.html>.

Using HP Systems Insight Manager with HP management software

After configuring HP Systems Insight Manager and the HP management software to work together, you can start experiencing the additional functionality that HP Systems Insight Manager offers in conjunction with other management software. These sections present a brief overview of the functionality. For more detailed instructions, refer to the *HP Systems Insight Manager User Guide*.

- [Using storage groups](#)
- [Viewing SNMP trap information](#)
- [Launching other management software](#)

Using storage groups

You can create HP Systems Insight Manager groups that group managed devices by server. To create a group, you must create a list that defines the group. To create a list:

1. Customize your System Lists:
 - a. Add or create a new folder such as “All Storage.”
 - b. Create a new list for each type of Command View.
2. Depending on which Command View server you want to search for:
 - For HP StorageWorks Command View SDM, define a list where the webagent is “HP StorageWorks Command View SDM.”
 - For HP StorageWorks Command View XP, define a list where the webagent is “HP StorageWorks Command View XP.”
 - For HP StorageWorks Command View ESL, define a list where the webagent is “HP StorageWorks Command View ESL.”

Viewing SNMP trap information

HP Systems Insight Manager can receive SNMP traps; you can view this information in multiple ways:

- View all traps
- View traps by severity
- View traps by Command View server

Launching other management software

You can launch Command View or other management software from within HP Systems Insight Manager in two ways:

- For each SNMP trap, you can view details and launch Command View or other software from the trap details. Refer to the *HP Systems Insight Manager User Guide* for more information.
- Select a system that has Command View running to view the **System Page**. From the **System Page**, locate and click the link to launch Command View.